Background: Pedialyte and Gatorade are advocated for the treatment of dehydration in viral gastroenteritis, but there is limited evidence to support their use. We examine the efficacy, safety, and palatability of Pedialyte, Gatorade, and a New Oral Rehydration Solution (N-ORS). This was a randomized double-blind trial conducted in an inpatient, community hospital. Seventy-five consecutive adult patients (male, 42; female, 33) admitted with viral gastroenteritis were randomized to receive Gatorade, Pedialyte, or N-ORS for 48 hours. A yogurt/rice diet was allowed ad libitum. Stool and urine output, electrolytes, fluid intake, body weight, hematocrit, and palatability of solutions were measured. Results: Sixty completed the study. Stool frequency, consistency, and body weight improved (p < .001) in all 3 groups, but there was no difference between groups. Likewise, urine output, hematocrit, and correlations between fluid ingested, stool weight, or urine output were similar. At admission and 24 and 48 hours later, hypokalemia was observed in 7, 10, and 8 patients with Gatorade; 3, 2, and 1 with N-ORS; and 2, 2, and 1 with Pedialyte, respectively. Similarly, hyponatremia was observed in 6, 9, and 3 patients with Gatorade; 5, 3, and 4 with N-ORS; and 4, 5, and 4 with Pedialyte. Tastewise, Gatorade and N-ORS were rated higher (p < .05) than Pedialyte. Limitations were a smaller sample size and higher dropout (20%). Conclusions: Gatorade and N-ORS seem to be as efficient as Pedialyte in correcting dehydration and improving bowel symptoms. All 3 solutions were safe. Unlike other groups, hypokalemia persisted in the Gatorade group. Gatorade and N-ORS may be effective in the treatment of dehydration associated with mild viral gastroenteritis.